after "comprising" in the preamble of claim 11. These claims are now believed to be in condition for allowance.

Claim Rejections – 35 USC § 112

Claim 19 has been amended to correct a typographical error and provide dependency on claim 11 rather than claim 1 thus, correcting the antecedent basis for the limitations of the first and second brackets. Claim 19 has been further amended to include the limitations of claim 11 and rewritten as an independent claim as suggested by the Examiner regarding allowable subject matter. This claim is now believed to be in allowable condition.

Claim Rejections – 35 USC § 102

Claims 1, 2, 9, 11 and 12 are rejected under 35 USC 102(b) as being anticipated by Mishima (U.S. Patent No. 3,294,458). Claims 1 and 11 have been amended to include claim 3 and 13 limitations respectively. Claims 1 and 11, as amended, disclose a bearing system and a motor with sufficiently flexible bearing brackets to allow the bearings to align with the axis of the rotating shaft. The brackets also need to be rigid enough so the rotor is maintained in spaced relation from the stator during operation of the motor. This "sufficiently rigid" limitation is disclosed in claims 1 and 11 of the Applicant's invention. In contrast Mishima requires a material of "extremely small stiffness" (col. 6, lines 72 –74).The Mishima patent discloses ball bearings and not journal type bearings as in Applicant's invention. Furthermore, Mishima discloses a bracket that is a thin metallic disc ('458, col. 7, lines 2-4) and not an elastomeric material as disclosed in claim 1 and 11 of Applicant's invention. Applicant's invention has at least a portion of the bearing bracket as a resilient elastomeric type material while Mishima uses a thin metal disc for the entire bracket. For these reasons, amended claims 1 and 11 are believed to be in allowable condition.

Claims 2 and 12, of Applicant's invention, are dependent from presumably allowable, amended claims 1 and 11, respectively, and are thus, also believed to be in allowable condition for the above stated reasons.

Claim 9, of Applicant's invention, is dependent on presumably allowable amended claim 1. For the above state reasons relative to claim 1, claim 9 is also believed to be in allowable condition.

Claim Rejections – 35 USC § 103

Claims 3, 4, 8, 13, 14, and 18 have been rejected under 35 USC 103(a) as being unpatentable over Mishima in view of Henck (U.S. patent No. 4, 862,582). Claims 3 and 13 have been canceled making the rejections to these claims moot. Claims 3 and 13 have been incorporated into Claims 1 and 11. Claim 4 was amended to change dependence from canceled Claim 3 to Claim 2 and claim 14 was amended to change dependence from canceled Claim 13 to Claim 12.

The Examiner states that Mishima does not disclose an elastomeric material for any portion of the bracket. Henck discloses plastic materials for the bracket but does not disclose that the plastic is to be "sufficiently flexible" to allow alignment of the bearings with the rotor shaft as claimed in Applicant's invention. The flexibility of Applicant's bracket enables alignment in Applicant's invention. In contrast, Henck's discloses a method of creating an end bell and does not disclose the need for alignment.

Amended claims 4 and 14, disclose a bracket of elastomeric material that has sufficient flexibility so that the rotor shaft can deflect the bracket and sufficient rigidity for the rotor to maintain a spatial relation from the stator during operation. This is not disclosed by Henck. Neither Henck's nor Mishima, individually, nor in combination yield Applicant's invention, because neither disclose the elastomeric material with sufficient flexibility and rigidity of the bracket disclosed in Applicant's invention.

Claims 4 and 14, as amended, and claims 8 and 18 are believed to be in allowable condition as they depend from presumably allowable amended claims 1 and 11 for the reasons stated above. Reconsideration and allowance of these claims is respectfully requested.

Claims 5, 6, 15, and 16 have been rejected under 35 USC 103(a) as being unpatentable over Mishima in view of McGinley (U.S. patent No. 1, 220,991). The Examiner states that Mishima does not disclose the rotation lock cooperating between the bearing and the receptacle to restrain the bearing (e.g. anti-rotation) as disclosed in Applicant's invention. As stated above, Mishima does not disclose an elastomeric bracket material as in claim 1 and 11, amended, of Applicant's invention. Nor does Mishima disclose at least one flat on the bearing. (Applicant's claim 6). McGinley does not disclose the use of an elastomeric material in the bracket. Thus, individually neither of these prior art references disclose Applicant's invention. Additionally, neither McGinley nor Mishima suggest their combination. However, assuming arguendo that Mishima and McGinley were combined, they do not yield Applicant's invention because neither disclose that at least a portion of the bracket is an elastomeric material nor would it have been obvious to one of ordinary skill to do so. Claims 5, 6, 15, and 16 depend from presumably allowable amended claims 1 and 11. Thus, these claims are believed to be in allowable condition for the reasons

stated above regarding amended claims 1 and 11. Reconsideration and allowance of these claims are respectfully requested.

Claims 7 and 17 are rejected under 35 USC 103(a) as being unpatentable over Mishima in view of Nutter (U.S. Patent No. 5, 287,030). In claims 7 and 17 of Applicant's invention a polymeric plastic bearing with a flange is disclosed. As indicated by the Examiner Mishima does not disclose this type of bearing. Nor does Mishima disclose the use of an elastomeric material for the bracket being sufficiently flexible for bracket deflection for alignment of the bearings as in Applicant's invention. Nutter discloses the use of steel spring clips to hold the motor together by slots in a housing and as a result of this configuration the motor is aligned. (See Column 4, lines 40-59.) This differs from Applicant's invention which does not use metal spring clips but rather uses an elastomeric material for the bearing bracket providing sufficient deflection for bearing alignment. McGinley does not disclose the use of an elastomeric material in the bracket. Thus, individually neither of these prior art references disclose Applicant's invention. Additionally, neither Nutter nor Mishima suggest their combination. However, assuming arguendo that Mishima and Nutter were combined, they do not yield Applicant's invention because neither disclose that at least a portion of the bracket is an elastomeric material with sufficient deflection that is utilized in aligning the bearing bracket nor would it have been obvious to one of ordinary skill to do so. Claims 7 and 17 depend from presumably allowable amended claims 1 and 11. Thus, these claims are believed to be in allowable condition for the reasons stated above regarding amended claims 1 and 11. Reconsideration and allowance of these claims are respectfully requested.

Allowable Subject Matter

The Examiner has indicated that claims 10 and 20 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10 and 20 have been so rewritten. These claims are now believed to be in allowable condition and reconsideration and allowance are respectfully requested.

The Examiner has indicated that claim 19 would be allowable if rewritten to overcome the rejections under 35 USC 112, second paragraph and to include all of the limitations of the base claim and any intervening claims. Claim 19 has been so amended. Reconsideration and allowance of this claim is respectfully requested.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,

Tamera L. Fair

TAMERA L. FAIR
ATTORNEY FOR APPLICANT
REGISTRATION NO. 35,867
TELEPHONE: (302) 892-7948
FACSIMILE: (302) 992-3257

Dated: 19 April 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In showing the changes, deleted material is shown as bracketed, and inserted material is shown underlined.

IN THE SPECIFICATION:

On page 18, amend the Abstract as follows:

(Amended) A bearing system [comprising] that includes a bearing 50 supported in a flexible bearing bracket, for example for use in fractional horsepower shaded pole type electric motors. The bearing system is self aligning, the bracket being able to deflect to compensate for deviations in the radial alignment of the rotor shaft. A rotation lock restrains the bearing against rotation within the bracket. In the preferred embodiment the bracket is composed of an elastomer and the bearing is composed of a high performance plastic polymer, so that the bearing system is non-lubricating.

IN THE CLAIMS:

1. (Amended) A bearing system for use with a motor having a rotor shaft and a rotor rotating within an opening through a stator, comprising a bearing bracket having at least a portion composed of an elastomeric material comprising a receptacle surrounding a bearing and supporting the bearing in fixed relation to the bracket, wherein the bracket is adapted to be mounted on the motor such that the opening in the bearing is disposed in the vicinity of an axis of the rotor shaft, and wherein the bracket is sufficiently flexible that the rotor shaft can deflect the bracket so that the bearing moves into alignment with an axis of the rotating shaft but the bracket is sufficiently rigid that the rotor is maintained in spaced relation from the stator during operation of the motor.

Cancel claim 3.

4. (Amended) The bearing system defined in claim [3] in which the bracket is composed of an elastomeric material.

10. (Amended) A bearing system for use with a motor having a rotor shaft and a rotor rotating within an opening through a stator, comprising a bearing bracket comprising a receptacle surrounding a bearing and supporting the bearing in fixed relation to the bracket, wherein the bracket is adapted to be mounted on the motor such that the opening in the bearing is disposed in the vicinity of an axis of the rotor shaft, and wherein the bracket is sufficiently flexible that the rotor shaft can deflect the bracket so that the bearing moves into alignment with an axis of the rotating shaft but the bracket is sufficiently rigid that the rotor is maintained in spaced relation from the stator during operation of the motor [The bearing system defined in claim 1 in which] and wherein the bracket is provided with two posts and adapted to interlock with complimentary posts [and] on a second bracket.

11. (Amended) A motor having a rotor shaft and a rotor rotating within an opening through a stator, having a bearing system comprising

one or more bearings each comprising an opening having at least one bearing surface, for maintaining a radial alignment of the rotor shaft, and

one or more bearing brackets each comprising a receptacle surrounding the bearing and supporting the bearing in fixed relation,

wherein the brackets are adapted to be mounted on the motor such that the openings in the bearings are disposed on opposite ends of the stator in the vicinity of an axis of the rotor shaft, and wherein the brackets, at least a portion of said brackets being composed of an elastomeric material, are sufficiently flexible that the rotor shaft can deflect the brackets so that the bearings move into alignment with an axis of the rotating shaft but the brackets are sufficiently rigid that the rotor is maintained in spaced relation from the stator during operation of the motor.

Cancel claim 13.

14. (Amended) The motor defined in claim [13] 12 in which the brackets are composed of an elastomeric material.

19. (Amended) A motor having a rotor shaft and a rotor rotating within an opening through a stator, having a bearing system comprising

one or more bearings each comprising an opening having at least one bearing surface, for maintaining a radial alignment of the rotor shaft, and

one or more bearing brackets each comprising a receptacle surrounding the bearing and supporting the bearing in fixed relation,

wherein the brackets are adapted to be mounted on the motor such that the openings in the bearings are disposed on opposite ends of the stator in the vicinity of an axis of the rotor shaft, and wherein the brackets, at least a portion of said brackets, are sufficiently flexible that the rotor shaft can deflect the brackets so that the bearings move into alignment with an axis of the rotating shaft but the brackets are sufficiently rigid that the rotor is maintained in spaced relation from the stator during operation of the motor [The motor defined in claim [1] 11,]in which [the] a first bracket is provided with at least one ribbed post and a [the] second bracket is provided with at least one ribbed socket complimentary to the post, the post being adapted to be secured in the socket by interlocking between ribs of the post and ribs of the socket.

20. (Amended) A motor having a rotor shaft and a rotor rotating within an opening through a stator, having a bearing system comprising

one or more bearings each comprising an opening having at least one bearing surface, for maintaining a radial alignment of the rotor shaft, and

one or more bearing brackets each comprising a receptacle surrounding the bearing and supporting the bearing in fixed relation,

wherein the brackets are adapted to be mounted on the motor such that the openings in the bearings are disposed on opposite ends of the stator in the vicinity of an axis of the rotor shaft, and wherein the brackets are sufficiently flexible that the rotor shaft can deflect the brackets so that the bearings move into alignment with an axis of the rotating shaft but the brackets are sufficiently rigid that the rotor is maintained in spaced relation from the stator during operation of the motor [The motor defined in claim 11] in which each bracket is provided with two posts and adapted to interlock with complimentary posts [and] on a second bracket.